

WHAT IS CLAIMED IS:

1 1. For use in a wireless network communications
2 system comprising a mobile station, a source base station
3 that is capable of communicating with said mobile station
4 and with a target base station, and a target base station
5 that is capable of communicating with said mobile station
6 and with said source base station, an apparatus for handing
7 off a high speed packet data call from said source base
8 station to said target base station, said apparatus
9 comprising:

10 a source base station that is capable of handing off a
11 supplemental channel to a target base station; and

12 a target base station that is capable of receiving
13 said supplemental channel when said supplemental channel is
14 handed off from said source base station.

1 2. The apparatus as set forth in Claim 1
2 wherein said source base station is capable of handing
3 off a high speed packet data call on said supplemental
4 channel to said target base station; and
5 wherein said target base station is capable of
6 receiving said high speed packet data call on said
7 supplemental channel handed off from said source base
8 station.

1 3. The apparatus as set forth in Claim 2 wherein
2 said source base station is capable of activating a non-
3 retransmission mode of a Radio Link Protocol (RLP) in said
4 source base station and in said target base station.

1 4. The apparatus as set forth in Claim 2
2 wherein said source base station comprises a packet
3 data handoff controller that is capable of sending
4 supplemental channel configuration information to said
5 target base station; and
6 wherein said target base station comprises a packet
7 data handoff controller that is capable of receiving said
8 supplemental channel configuration information from said
9 source base station.

1 5. The apparatus as set forth in Claim 4 wherein
2 said supplemental channel configuration information
3 comprises one of: a supplemental channel forward data rate,
4 a supplemental channel reverse data rate, a supplemental
5 channel burst duration, and a supplemental channel radio
6 configuration.

1 6. The apparatus as set forth in Claim 4
2 wherein said source base station comprises a packet
3 data handoff controller that is capable of sending Radio
4 Link Protocol (RLP) configuration information to said
5 target base station; and

6 wherein said target base station comprises a packet
7 data handoff controller that is capable of receiving said
8 Radio Link Protocol (RLP) configuration information from
9 said source base station.

1 7. The apparatus as set forth in Claim 6
2 wherein said source base station comprises a packet
3 data handoff controller that is capable of handing off to
4 said target base station a high speed packet data call on
5 said supplemental channel starting at a selected Radio Link
6 Protocol (RLP) frame identified in said Radio Link Protocol
7 (RLP) configuration information; and
8 wherein said target base station comprises a packet
9 data handoff controller that is capable of receiving from
10 said source base station said high speed packet data call
11 on said supplemental channel starting at said selected
12 Radio Link Protocol (RLP) frame identified in said Radio
13 Link Protocol (RLP) configuration information.

1 8. For use in a wireless network communications
2 system comprising a mobile station, a source base station
3 that is capable of communicating with said mobile station
4 and with a target base station, and a target base station
5 that is capable of communicating with said mobile station
6 and with said source base station, a method for handing off
7 a high speed packet data call from said source base station
8 to said target base station, said method comprising the
9 steps of:

10 providing a source base station that is capable of
11 handing off a supplemental channel to a target base
12 station;

13 providing a target base station that is capable of
14 receiving said supplemental channel when said supplemental
15 channel is handed off from said source base station; and

16 handing off a high speed packet data call from said
17 source base station to said target base station on said
18 supplemental channel.

1 9. The method as claimed in Claim 8 further
2 comprising the step of:

3 activating a non-retransmission mode of a Radio Link
4 Protocol (RLP) in said source base station and in said
5 target base station.

1 10. The method as claimed in Claim 8 wherein said
2 step of providing a source base station that is capable of
3 handing off a supplemental channel to a target base station
4 comprises the step of:

5 providing a source base station that comprises a
6 packet data handoff controller that is capable of sending
7 supplemental channel configuration information to said
8 target base station.

1 11. The method as claimed in Claim 10 wherein said
2 supplemental channel configuration information comprises
3 one of: a supplemental channel forward data rate, a
4 supplemental channel reverse data rate, a supplemental
5 channel burst duration, and a supplemental channel radio
6 configuration.

1 12. The method as claimed in Claim 8 wherein said
2 step of providing a target base station that is capable of
3 receiving said supplemental channel when said supplemental
4 channel is handed off from said source base station
5 comprises the step of:

6 providing a target base station that comprises a
7 packet data handoff controller that is capable of receiving
8 supplemental channel configuration information from said
9 source base station.

1 13. The method as claimed in Claim 12 wherein said
2 supplemental channel configuration information comprises
3 one of: a supplemental channel forward data rate, a
4 supplemental channel reverse data rate, a supplemental
5 channel burst duration, and a supplemental channel radio
6 configuration.

1 14. For use in a wireless network communications
2 system comprising a mobile station, a source base station
3 that is capable of communicating with said mobile station
4 and with a target base station, and a target base station
5 that is capable of communicating with said mobile station
6 and with said source base station, a method for handing off
7 a high speed packet data call from said source base station
8 to said target base station, said method comprising the
9 steps of:

10 providing a source base station that is capable of
11 handing off a supplemental channel to a target base
12 station;

13 providing a target base station that is capable of
14 receiving said supplemental channel when said supplemental
15 channel is handed off from said source base station;

16 activating a non-retransmission mode of a Radio Link
17 Protocol (RLP) in said source base station and in said
18 target base station;

19 sending supplemental channel configuration information
20 from said source base station to said target base station;

21 sending Radio Link Protocol (RLP) configuration
22 information from said source base station to said target
23 base station;

24 handing off a high speed packet data call from said
25 source base station to said target base station on said
26 supplemental channel; and

27 receiving in said target base station said high speed
28 packet data call on said supplemental channel starting at a
29 selected Radio Link Protocol (RLP) frame identified in said
30 Radio Link Protocol (RLP) configuration information.

1 15. The method as claimed in Claim 14 wherein said
2 step of providing a source base station that is capable of
3 handing off a supplemental channel to a target base station
4 comprises the step of:

5 providing a source base station that comprises a
6 packet data handoff controller that is capable of sending
7 supplemental channel configuration information and Radio
8 Link Protocol (RLP) configuration information to said
9 target base station.

1 16. The method as claimed in Claim 15 wherein said
2 supplemental channel configuration information comprises
3 one of: a supplemental channel forward data rate, a
4 supplemental channel reverse data rate, a supplemental
5 channel burst duration, and a supplemental channel radio
6 configuration.

1 17. The method as claimed in Claim 14 wherein said
2 step of providing a target base station that is capable of
3 receiving said supplemental channel when said supplemental
4 channel is handed off from said source base station
5 comprises the step of:

6 providing a target base station that comprises a
7 packet data handoff controller that is capable of receiving
8 supplemental channel configuration information and Radio
9 Link Protocol (RLP) configuration information from said
10 source base station.

1 18. The method as claimed in Claim 17 wherein said
2 supplemental channel configuration information comprises
3 one of: a supplemental channel forward data rate,
4 a supplemental channel reverse data rate, a supplemental
5 channel burst duration, and a supplemental channel radio
6 configuration.

1 19. The method as claimed in Claim 14 further
2 comprising the steps of:

3 sending a Handoff Required message from said source
4 base station to a mobile switching center, wherein said
5 Handoff Required message contains supplemental channel
6 configuration information and Radio Link Protocol (RLP)
7 configuration information;

8 sending a Handoff Request message from said mobile
9 switching center to said target base station, wherein said
10 Handoff Request message contains supplemental channel
11 configuration information and Radio Link Protocol (RLP)
12 configuration information;

13 sending a Handoff Request Acknowledgement message from
14 said target base station to said mobile switching center
15 indicating that said target base station can support said
16 high speed packet data call;

17 connecting said target base station to a packet data
18 server node to receive said high speed packet data call;

19 handing off said high speed packet data call from said
20 source base station to said target base station on said
21 supplemental channel; and

22 receiving in said target base station said high speed
23 packet data call on said supplemental channel starting at a
24 selected Radio Link Protocol (RLP) frame identified in said
25 Radio Link Protocol (RLP) configuration information.

26 20. The method as claimed in Claim 19 wherein said
27 step of handing off said high speed packet data call from
28 said source base station to said target base station on
29 said supplemental channel comprises the steps of:

30 sending a Handoff Command message from said mobile
31 switching center to said source base station to cause said
32 high speed packet data call to be handed off to said target
33 base station; and

34 sending a Handoff Direction message from said source
35 base station to said mobile station to inform said mobile
36 station of said handoff of said high speed packet data call
37 to said target base station.